IN THE CLAIMS:

This listing of claims will replace all prior versions, and listings, of claims in the application:

LISTING OF THE CLAIMS:

Claim 1 (Cancelled).

2. (Currently Amended) Pattern defect detecting equipment ~~according to Claim 1,~~ comprising:

a laser source for emitting an ultraviolet laser beam;

coherence reducing means for reducing the coherence of the ultraviolet laser beam emitted from said laser source;

objective lens means for irradiating a sample with said ultraviolet laser beam passing through said coherence reducing means;

image detecting means for detecting an image of said sample irradiated with the ultraviolet laser beam through said objective lens means;

storage means for storing a comparison image signal; and

defect detecting means for detecting a defect in a pattern formed on said sample by comparing an image signal of said sample which is outputted from said image detecting means to the comparison image signal stored in said storage means;

wherein said coherence reducing means scans said ultraviolet laser beam over a pupil of said objective lens means.

3. (Currently Amended) Pattern defect detecting equipment according to Claim ~~1~~ 2, wherein said coherence reducing means has an optical path part consisting of a plurality of optical fibers or glass rods whose lengths are mutually varied, and the ultraviolet laser beam emitted from said laser source is inputted into a plurality of the

optical fibers or glass rods of said optical path part at one end thereof and made to go out of another end thereof on said objective lens side.

4. (Currently Amended) Pattern defect detecting equipment ~~according to Claim 1,~~ comprising:

a laser source for emitting an ultraviolet laser beam;

coherence reducing means for reducing the coherence of the ultraviolet laser beam emitted from said laser source;

objective lens means for irradiating a sample with said ultraviolet laser beam passing through said coherence reducing means;

image detecting means for detecting an image of said sample irradiated with the ultraviolet laser beam through said objective lens means;

storage means for storing a comparison image signal; and

defect detecting means for detecting a defect in a pattern formed on said sample by comparing an image signal of said sample which is outputted from said image detecting means to the comparison image signal stored in said storage means;

wherein said coherence reducing means has an optical path part consisting of a plurality of optical fibers or glass rods, and the ultraviolet laser beam emitted from said laser source is inputted in an oblique direction into a plurality of the optical fibers or glass rods of said optical path part at one end thereof and made to go out of another end thereof on said objective lens side.

5. (previously presented) Pattern defect detecting equipment, comprising:

a laser source for emitting an ultraviolet laser beam; coherence reducing means for reducing the coherence of the ultraviolet laser beam emitted from said laser source;

objective lens means for irradiating a sample with said ultraviolet laser beam passing through said coherence reducing means;

table translation means movable in a X-Y plane with said sample mounted on it;

time-delay integration type image sensor means for detecting an image of said sample irradiated with said ultraviolet laser beam through said objective lens means;

controlling means for controlling the timing between the translating of said table translation means and the imaging of said time-delay integration type image sensor means;

storage means for storing a comparison image signal; and

defect detecting means for detecting a defect of a pattern formed on said sample by comparing an image signal based on the image of said sample detected with said time-delay integration type image sensor means to the comparison image signal stored in said storage means.

6. (original) Pattern defect detecting equipment according to Claim 5, wherein said coherence reducing means scans said ultraviolet laser beam over a pupil of said objective lens means.

7. (previously presented) Pattern defect detecting equipment according to Claim 5, further comprising an optical path part consisting of a plurality of optical fibers or glass rods whose lengths are mutually varied, the ultraviolet laser beam emitted from said laser source being inputted into one end of said plurality of optical fibers or glass rods and exiting the other end thereof on said objective lens side.

8. (previously presented) Pattern defect detecting equipment according to Claim 5, further comprising an optical path part consisting of a plurality of optical fibers or glass rods whose lengths are mutually varied, the ultraviolet laser beam being emitted from said laser source goes being inputted in an oblique direction into one end

of said plurality of optical fibers or glass rods and exiting the other end thereof on said objective lens side.

9. (previously presented) Pattern defect detecting equipment, comprising:

an ultraviolet laser source;

coherence reducing means for reducing the coherence of an ultraviolet laser beam emitted from said ultraviolet laser source;

projecting means for projecting the ultraviolet laser beam through said coherence reducing means onto a pupil of an objective lens;

illuminating means for illuminating a detection field of view of an object uniformly by the ultraviolet laser beam projected on the pupil of said objective lens and passing through the objective lens;

image detecting means for detecting an image of said object illuminated by said illuminating means; and

detecting means for detecting a defect on said object by comparing image data obtained from the image of said object detected with said image detecting means to image data stored beforehand.

10. (Currently Amended) Pattern defect detecting equipment, comprising:

a laser source for emitting an ultraviolet laser beam;

coherence reducing means for reducing the coherence of the ultraviolet laser beam emitted from said laser source;

irradiating means for irradiating a sample with the ultraviolet laser beam whose coherence was reduced by said coherence reducing means through a polarizing beam splitter and an objective lens;

image detecting means for detecting an image of the sample irradiated with the ultraviolet laser beam by said irradiating means; and

defect detecting means for detecting a defect of the pattern formed on said sample based on information concerning the image of said sample detected with said image detecting means.

13. (currently amended) Method of detecting a pattern defect comprising the steps of:

emitting an ultraviolet laser beam from a laser source;

reducing coherence of said ultraviolet laser beam by effecting scanning of said ultraviolet laser beam with a coherence reducing means;

irradiating a sample with said ~~emitted~~ coherence reduced ultraviolet laser beam through ~~coherence reducing means and~~ an objective lens;

detecting an image of said sample irradiated with said ultraviolet laser beam through said objective lens; and

detecting a defect of a pattern formed on said sample by comparing an image signal of the image of said sample detected through said objective lens to a comparison image signal stored in storage means.

11. (previously presented) Pattern defect detecting equipment according to Claim 10, wherein said coherence reducing means is means for reducing at least the temporal coherence of the ultraviolet laser beam emitted fpm said laser source.

12. (previously presented) Pattern defect detecting equipment according to Claim 10, wherein said coherence reducing means includes means for scanning a light spot, which is formed by converged rays of light, on a pupil of the irradiating means.

14. (previously presented) Method of detecting a pattern defect according to Claim 13, wherein the spatial coherence of said ultraviolet laser beam with which said sample is irradiated through said coherence reducing means is reduced.

15 (previously presented) Method of detecting a pattern defect according to Claim 13, wherein the ultraviolet laser beam for irradiating said sample through said coherence reducing means is detected on said sample with the temporal coherence reduced.

16. (previously presented) Method of detecting a pattern defect comprising the steps of:

emitting an ultraviolet laser beam from a laser source;

irradiating a sample mounted on a table movable in a plane with said emitted ultraviolet laser beam through coherence reducing means and an objective lens; and

detecting an image of said sample irradiated with said ultraviolet laser beam through said objective lens with a time-delay integration type image sensor in synchronization with translation of said table;

wherein the method further comprises a step of detecting a defect of a pattern formed on said sample by comparing an image signal based on the image of said sample detected with said time-delay integration type image sensor to a comparison image signal stored beforehand.

17. (previously presented) Method of detecting a pattern defect according to Claim 16, wherein the spatial coherence of the ultraviolet laser beam with which said sample is irradiated through said coherence reducing means is reduced.

18. (previously presented) Method of detecting a pattern defect according to Claim 16, wherein the ultraviolet laser beam with which said sample is irradiated through said coherence reducing means is detected on said sample with its temporal coherence reduced.

19. (previously presented) Method of detecting a pattern defect according to Claim 16, wherein said coherence reducing means comprises a plurality of optical fibers or glass rods whose lengths are mutually different and the spatial coherence of said ultraviolet laser beam is decreased by making said ultraviolet laser beam pass through said coherence reducing means.

20. (previously presented) Method of detecting a pattern defect according to Claim 16, wherein said coherence reducing means comprises a plurality of optical fibers or glass rods and reduces said spatial coherence of said ultraviolet laser beam by making said ultraviolet laser beam go into the coherence reducing means in an oblique direction and pass through said plurality of the optical fibers or glass rods.

21. (previously presented) Method of detecting a pattern defect according to Claim 16, wherein said spatial-coherence of said ultraviolet laser beam is reduced by changing a position of a speckle pattern on said sample formed by the ultraviolet laser beam with which said sample is irradiated within a time shorter than said detection time.

22. (previously presented) Method of detecting a pattern defect comprising the steps of:

scanning an ultraviolet laser beam emitted from a laser source over a pupil of an objective lens;

irradiating a sample with the ultraviolet laser beam passing through said objective lens;

detecting an image of said sample irradiated with said ultraviolet laser beam with a storage-type detector; and

detecting a defect of a pattern formed on said sample using an image signal of said sample detected with said storage-type detector.

23. ~~(previously presented) Method of detecting a pattern defect according~~ to Claim 22, wherein a period of the scanning of said ultraviolet laser beam over the pupil of the objective lens is shorter than a storage time of said storage-type detector.

24. (currently amended) Method of detecting a pattern defect comprising of the steps:

emitting a laser beam whose wavelength is not longer than 400 nm from a laser source;

reducing coherence of said ultraviolet laser beam by effecting scanning of said ultraviolet laser beam with a coherence reducing means;

irradiating a sample with said ~~emitted~~ coherence reduced laser beam ~~through coherence reducing means~~;

detecting an image of said sample irradiated with said laser beam; and

detecting a defect of a pattern formed on said sample based on information concerning said detected image of said sample.

25. (currently amended) Method of detecting a pattern defect according to Claim 24, wherein the spatial coherence of ~~the ultraviolet~~ said coherence reduced

laser beam with which said sample is irradiated ~~through said coherence reducing means~~ is reduced.

26. (currently amended) Method of detecting a pattern defect according to Claim 24, wherein ~~the ultraviolet~~ said coherence reduced laser beam with which said sample is irradiated through said coherence reducing means is detected on said sample with the temporal coherence reduced.

27. (currently amended) Method of detecting a pattern defect, comprising ~~the steps of:~~

emitting coherent light from a light source on an optical path;

reducing ~~the~~ coherence of said emitted coherent light on said optical path;

irradiating a sample with said light, whose coherence was reduced, through a polarizing beam splitter and an objective lens;

detecting an image of said sample irradiated with said light, whose coherence was reduced, with a storage-type detector through said polarizing beam splitter and said objective lens; and

detecting a defect of a pattern formed on said sample by comparing an image signal obtained from the image of said sample detected with the storage-type detector to a comparison image signal stored beforehand.

28. (currently amended) Method of detecting a pattern defect, comprising the steps of:

emitting an ultraviolet laser beam from a laser source;

irradiating a semiconductor wafer, where a circuit pattern was formed, with said emitted ultraviolet laser beam through coherence reducing means, a polarizing beam splitter and an objective lens;

detecting an image of said circuit pattern irradiated with said ultraviolet laser beam with a solid state imager through said polarizing beam splitter and said objective lens; and

detecting a defect not larger than 0.2 μm on said semiconductor wafer by comparing an image signal based on the image of said circuit pattern detected with said solid state imager to a comparison image signal stored beforehand.